The research work disclosed in this publication is partially funded by the Endeavour Scholarship Scheme (Malta). Scholarships are part-financed by the European Union - European Social Fund (ESF) - Operational Programme II – Cohesion Policy 2014-2020 “Investing in human capital to create more opportunities and promote the well-being of society”.

The main aim of this study was to explore the factors affecting the colonisation of the Maltese Islands by alien flora. The Convention on Biological Diversity (CBD) defines ‘alien’ species as “plants, animals, pathogens and other organisms that are non-native to an ecosystem”, and ‘invasive alien’ species as those “which may cause economic or environmental harm or adversely affect human health.”. Malta’s National Biodiversity Strategy and Action Plan 2012-2020 which was adopted as a response to the CBD, addresses the issue of alien species in the Maltese Islands, aiming to devise preventive measures for new alien species introductions while eradicating those which are already present.

Previous studies in the Maltese Islands have mainly focused on obtaining lists of alien species, prioritising invasive species and coming up with strategies for their management. However, little or no work has been done on predicting the probability that certain alien plants become invasive and determining the link between source and sink communities of alien plants. This study was aimed at filling these knowledge gaps.

Sites which were situated close to one another were more likely to have similar alien components in their flora than more distant sites. Roadsides and gardens were seen to be very important sources of many different alien plant species, while agricultural land was important due to a substantial coverage of this land use in the Maltese Islands. The most significant environmental factors affecting the number of alien plants were anthropogenic interference and native species richness.

The most frequently occurring alien plants are those which can reproduce quickly, spread and disperse extensively and which have broad limits of abiotic tolerance enabling survival under local conditions. Another important factor is ‘desirability’ of a plant by humans, since attractive or useful plants will be introduced repeatedly into a habitat. Phanerophytes (trees) were found
to be the most common alien plants probably due to their desirability by humans. A large fraction of alien plants was tall, enabling them to obtain more resources and shade out competitors. Succulence was another common trait— an advantage considering the hot and dry climate of the Maltese Islands. With regards to pollen and seed dispersal, desirability by humans was significant due to the preference for showy flowers and fruit displays. Allelopathy, which helps plants outcompete their neighbours, was also common. Furthermore, most alien plants could reproduce asexually, promoting rapid establishment and spread.

Undertaking this course has been a very rewarding experience. Besides learning more about the issues of alien flora in the Maltese Islands, I was also able to further develop my fieldwork skills and appreciate the importance of protecting natural ecosystems, which are a part of our heritage. Unfortunately, while conducting fieldworks in various parts of the Maltese Islands I was quite disappointed to note that many potential sites of study were inaccessible due to illegal hunting and trapping activities, while others were being damaged by other instances of anthropogenic interference such as dumping. I believe this highlights the importance of protecting our natural areas from more than just invasion by alien flora, but also misuse by people. That aside, I believe that having finished this course, will help me not only in my current role as an educator, but will also give me the knowledge and expertise needed to pursue employment within the sector of environmental conservation.